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AgriCultural HERITAGE

Introduction

Agriculture has, and has had, a wide range of meanings for humankind. Agriculture could be merely seen as an economic activity for income generation or as the primary sector that converts sunlight into food to meet human needs or yet as a multifunctional sector providing the society with jointly produced¹ goods and services benefiting environment, societies, rural tradition and territories. Moreover, it could also be seen as a process by which our civilisation took place and has evolved.

Agriculture have been emerged in different areas from the 9500 and the 3500 BC when the domestication of plants and animals allowed overcoming the hunting and gathering strategies as humankind's unique survival options. Agriculture is a sedentary production system that has enabled permanent settlements, supplying a great number of people with localised food sufficient to meet community dietary needs. Agriculture assured food all year round and was more reliable and less time-consuming than hunting and gathering. It generated an enhanced availability of protein and carbohydrates with a surplus of food valuable to overcome lean times (food security) or to feed people not engaged in the production of food but in intellectual activities to improve communities knowledge and technologies. The agriculture productivity allows cultural, scientific and political evolution. It activated different functions within the societies giving rise to social stratification, to economic and cultural specialization, to the development of cities and territories. The extraordinary consequences of such a revolution gave impulse to deep changes in the human communities transforming the way humans interact with the environment enabling them to dominate it by using cultural and technological means. They started to manage their environment instead of simply living within it. The agriculture's positive contributions to human communities was joint with many externalities² due to the large sedentary population settlements that put the conditions for negative impacts on natural resources (waste, sewage, pollution, water quality and quantity, social friction, wars).

Our present day dependence on agriculture is misjudged; regional and international trade and food imports have substituted the production of local food and the agriculture role is marginally and poorly perceived by contemporary societies. The local diverse traditional food production systems have collapsed under market pressure, selecting on the economic performances of the production systems (market competition and minimum cost standards). It is commonly recognised that agriculture plays an important role that goes beyond the production of private goods for the market; agriculture is a multifunctional sector providing the societies

¹ 'Jointness' occurs when the production of one good or service is linked the production of another. Agriculture provides multiple outputs of which some are private goods (sold in the markets) and other are public goods not remunerated by the markets. Often in the agricultural production processes, the supply of private goods implies integrated provision of public goods.

² 'externalities', is a market failure in which the production of wanted good or service is not remunerated for it (positive externalities e.g. landscape preservation) or does not pay for its negative effects(negative externalities e.g. pollution).

with public goods jointly supplied with private goods. It preserves environment and landscapes, local tradition and know how, biodiversity and agrobiodiversity, hydrogeological asset; it empowers local communities, bolstering rural sustainable development and social cohesion in rural and urban areas, it ensures food security.

Population concentrated in urban settles are net food buyers demanding food supplied by rural areas or by food imports. To meet the requirements of the growing population. Agriculture has been increasing its productivity by adopting high input production techniques and by cultivating high yielding improved varieties of crops. The main effects of this process are associate to environment hazards and to loss in biodiversity. In fact, more than 90 percent (75% since 1900) of crop varieties have been lost, 50 per cent of breeds are lost and 30% are at risk of extinction. So that our food system rely on few plant and animal species. Today, 12 plant species and 5 animal species supply the 75 percent of the total world's food demand, despite around 300.000 plant species are known edible only 150 plant species are commercially grown for food (excepted spices). Only three cereals (rice, maize and wheat) provide the 60% of plant protein intake, while animals provide around 30 percent of human proteins needs. (Source: FAO. 1999b). The agrobiodiversity erosion and the loss of traditional crops threatens local knowledge, cultural heritage, skills and tradition, that are integral parts of local varieties biodiversity managements. "Local knowledge and culture can therefore be considered as integral parts of agrobiodiversity, because it is the human activity of agriculture that shapes and conserves this biodiversity" (FAO, 1999a).

Agriculture in Barbados and Dominica

Barbados agriculture contributes to GDP was assessed to approximately 3.6% for the period 2005-2010 (FAO et al. 2012), nevertheless its contribution has showed a constant decline from the 6.4% of GDP over the period 1995–2000 to approximately 5% in 2003.



As the last 1989 Agricultural Census shows Barbados has a highly skewed land distribution pattern. Less than 1 per cent of the farms (94 sugar plantations farms) hold approximately 78 per cent of total agricultural land, while the other 99 per cent are smallholders, approximately 17,000 people, hold only the 22 per cent of agricultural land. So far this skewed land ownership pattern is persisting. The 90 percent of farmers owned

farms of 0,5 hectare or less between them the 24 percent have farms with size smaller then 0,025 hectare. The land distribution pattern shows deep weakness, it limits agriculture contribution to the national economic system and to the rural development, and it reduces productivity and production to supply local demand. The Barbados food import bill, which was estimated at USD 312 million in 2011 (Source: FAO 2015).

	BARBADOS	DOMINICA
COUNTRY AREA (ha)	43000	75000
LAND AREA (ha)	43000	75000
AGRICULTURAL AREA (ha)	14000	25000
FOREST (ha)	6300	43600
	source FAO 2014	

Food imports – selected food groups (kg/person/yr)

Country name	Cereals & prod. excl beer			Meat (slaughtered) & prod.			Fruits & prod. (excl. wine)			Vegetables & products			Milk & products		
	1969-1971	1992-1992	2001-2003	1969-1971	1992-1992	2001-2003	1969-1971	1992-1992	2001-2003	1969-1971	1992-1992	2001-2003	1969-1971	1992-1992	2001-2003
Antigua and Barbuda	95	101	82	27	76	52	31	29	47	14	38	10	46	77	70
Bahamas	118	107	118	84	97	101	66	119	215	45	60	54	142	129	99
Barbados	137	285	272	51	43	37	49	72	119	13	14	32	115	86	106
Belize	100	99	115	18	16	8	6	9	14	9	11	21	116	147	78
Dominica	78	117	109	20	48	57	7	16	10	5	10	14	46	95	110
Dominican Republic	25	106	164	0	0	0	1	1	4	1	1	2	19	29	9
Grenada	104	211	324	18	48	81	6	27	40	5	8	12	72	148	144
Guyana	72	78	92	4	6	6	5	0	13	5	0	39	50	14	69
Haiti	10	48	79	0	0	4	0	0	1	0	1	2	4	9	8
Jamaica	157	172	222	11	13	16	5	3	18	4	2	9	61	42	41
Saint Kitts and Nevis	110	163	163	21	75	126	4	41	87	7	22	58	87	109	138
Saint Lucia	90	156	182	20	68	86	17	55	71	5	16	25	48	105	144
Saint Vincent/Grenadines	93	342	297	11	53	64	2	10	35	3	2	8	72	70	84
Suriname	85	137	108	12	3	29	3	1	4	9	10	18	25	46	24
Trinidad and Tobago	192	213	201	9	9	12	11	41	32	8	16	22	115	96	103

Source: FAOSTAT, 2006

Imports as a percentage of domestic supply of selected food groups

	Fruits	Milk	Vegetables	Cereals
Antigua and Barbuda	14.7	48.9	15.9	98.7
Bahamas	45.9	95.1	27.1	99.5
Barbados	78.9	78.4	28.5	110.4
Belize	0.3	86.3	25.9	29.2
Cuba	0.0	38.1	0.7	63.2
Dominica	0.1	54.9	9.7	97.7
Dominican Republic	0.9	11.5	1.2	65.0
Grenada	0.4	95.0	18.7	176.2
Guyana	0.5	61.4	14.1	19.5
Haiti	0.0	46.8	3.3	62.0
Jamaica	0.3	80.6	5.9	100.0
Saint Kitts and Nevis	33.8	81.5	68.7	100.0
Saint Lucia	0.6	94.5	76.4	100.0
Saint Vincent/Grenadines	0.4	86.6	13.8	205.9
Suriname	1.4	35.6	13.8	22.5
Trinidad and Tobago	11.6	95.5	50.4	103.9

Source: FAOSTAT, 2006

Dominica's agriculture has been very vulnerable to weather condition and climate changes but it is still playing an important role in the local economic system: it contributes over 20% of GDP and employing around 40% of the work force. Although, the trends in agriculture employers shows a decline in the farmer's numbers as well an increase in the farmers' age; the average age of farmers is between 55 to 60 years. Young people are not interested in agricultural employments and enterprises so the senescence of the sector is negatively affect the sector ability to contrast production decline and land abandon. Dominica has a subsistence agriculture based on smallholder farming systems with a farm size ranging from 0.5 – 10 ha, producing a wide range of crops for self-consumption and the local and regional markets. Approximately 30 % of the total country land is agricultural land, of which 54% is utilised agricultural area (1995 Dominica Agricultural Census). The

agricultural sector is traditionally characterized by banana production along with traditional crops such as citrus, root crops, coconuts, plantains and other food crops, grown mainly in multiple cropping traditional systems, while banana is cultivated in monoculture specialised plantations. Traditionally banana was the most important cash crop and it accounted for 1.3% of agricultural exports in 1991. Since then the banana sector experienced a strong decline shifting from 23.100 farms in the 1994 to the 5.300 farms in the 2003. Dominica food import bill is estimated at around 26 million USD.

Sharing experiences



Dominica's and Barbados's food import bill offers the opportunity to significantly promote and bolster local agricultural production systems to replace food import and to supply Caribbean region market. This challenging opportunity gives the chance for tailoring a renewed and broadened role for the local agriculture, enhancing the sector's multifunctionality (environmental, social, cultural and economic functions) and recovering the relationships between agriculture and the society, changing the role of agricultural activities in pursuing sustainable and inclusive local development.

During the Caritalents experiences, we shared concepts and visions on agriculture. We stressed the role of agriculture in defining cultures, traditions, seasons, religion and territories; we share our perception of agriculture heritage and our beautiful memories of agriculture. We discovered its linkage with the local cultures, the territories, the traditions, local skills and know-how and we conversed on the possible adaptations of the agriculture's diverse social and environmental functions to the local communities' needs and characteristics. We introduced the history of agriculture and of our civilization and we discuss present-day agriculture's main features based on the concept of Multifunctional of Agriculture (MFA). The concept was mainly focused on FAO approach based on the wide range and on the different nature of agricultural activities, functions and contribution to the societies. The MFA is mainly associated with its provision of joint productions of environmental services and goods and with wide range of benefits to the societies like food security, poverty alleviation, social welfare and cultural heritage. This concept (MFA) opens up new innovative perspectives on potential ability of the sector to solve crucial problems of contemporary society acting in a local, bottom up approach to enhance social inclusion, community's empowerment, sustainable local development. We share some experiences undertaken in order to enhance and to extend the role of agriculture to promote youth

involvement in agricultural activities and to meet society's requirements in term of environmental and social issues. Giving the agriculture's situation of both Dominica's e Barbados's island and the innovative perspectives opened up by the multifunctional role of agriculture, we introduces some projects, tools and experiences focusing on the food re-localization and on the promotion of a sustainable social agriculture.



Sustainable public food procurement (PFP) is the use of the public buying power to address social environmental goals in the food production systems, promoting the re-localization of the food production systems and increasing money circulation within the community. The PFP has a multiplier effect on the local economy with wider positive socioeconomic and environmental effects on vulnerable people (farmers, consumers and youth) and on the whole society.

We focused on the opportunities offered by schools canteens thought the implementation of farms to school programs. Farm to school is the practice of providing schools, preschools and cafeterias with local food as education opportunity to bring into the young generations and into their family attention to agriculture and its contribution to cultural heritage conservation and to health and nutrition issues (high incidence of obesity relate disease in both countries). The farms to school programs produce benefits to the local communities, supporting the local and the state economy, promoting nutrition education and healthy eating habits in students, in student's families and in schools staff. It encompasses school gardens, farm field trips and cooking lessons to connect youth directly with food production, agriculture, local culture and territory. Farm to school programs supports local and regional farmers in order to enhance food security in terms of local production and food access and creates synergistic relations between urban, peri-urban and rural areas and societies, establishing urban food strategies to create sustainable city-regions and inclusive societies.



Different actions can be put place to promote sustainable public food procurement and farm to school initiatives, such as events or celebrative day for specific crop or production (sugar cane, banana, roots crops, citrus), school markets for selling local seasonal products, farmers visits to school to share tradition and lost crops, farm stories, cooking and growing techniques. Besides that, farm field trips or a short stay in farmhouses can be carried out to let students to have on-farm experiences and to experience landscape and rural environment.

We discuss some options to bring local agricultural heritage into actions involving vulnerable youth, farmers and consumers in a re-localization of value food chain in sustainable local perspectives.

Framers cooperatives, traditional production systems, farms diversification, organic agriculture, cooperative extension, market integration, PFP and farms to schools programs were recognised as key factors to implement the innovative MFA able to preserve and valuing the local agricultural heritage.

At the end of our training period, we compared the two definition of agriculture each participants gave at the beginning and at the end of the course.

The early definition were more related to economic/production aspects: "Agriculture is an economic activity for the production of varies crops: sugar cane is one such example". Each definitions adopted economic and technical words describing trade and production related characteristics. In our structured debate in Barbados, nobody connected the words "landscape", "rural" or "sustainable" to the agriculture and the memories we shared in Barbados deal mainly with sugarcane fields, and grandmother or grandfather vegetable gardens stories. In Dominica during the debate, more knowledge on rural areas, agriculture and tradition arose and more knowledge on agriculture activities has emerged. In Dominica cultural heritage is still perceived as rooted in agricultural and in rural tradition and the current agricultural decline is seen as a threaten for the local identity and culture.

At the end of the period both in Barbados and Dominica the definition of agriculture accounted for a broad role and for the diverse contributions agriculture may deliver to the societies: “Agriculture is a multifunctional sector that has hidden potentiality in terms of environmental protection and socio economic development. Through the agricultural policies we have the possibility to manage landscapes, environment societies, and to build human relationships.”

To better understand the evolution of our vision of agriculture after sharing concepts and experiences we analysed and accounted the words used by participants in defining agriculture.

In the first time definition the word used to describe agriculture were technical and economical word (indicated with star in the table) referring to the productivistic role of agriculture. The more frequently used words were “production”, “crops”, “grow”, “import /export” and “economy”; while the last definition included words more related to environmental, cultural and social function of agriculture. The more frequently used words at this phase were “environment”, “consumption”, “sustainability”, “society” and words like “cultural heritage” and “landscape” come into the definition.

1° round	2°round
production*	environment
crops*	consumption*
food/grow*	sustainability
import/ export*	society
economy*	life
farming*	human
plant *	food
rear*	nature
consumption*	recicle
industry*	experience/ culture/ heritage
livestock *	health
land*	landscape

During the course, the agriculture's vision has changed, shedding light on the multifunctional innovative role of agriculture and on the potentiality of this sector in terms of pursuit sustainable inclusive development and cultural heritage conservation, providing opportunities to youth and to the whole society in terms of inclusive sustainable development.

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